

2. PERFORMANCE MANAGEMENT

TRACKING THE ACTION AGENDA

Performance Management: Tracking and Reporting on Action Agenda Progress

The Revised Code of Washington (RCW) 90.71.370(3)—the legislation that established the Puget Sound Partnership—requires an assessment of the progress made by state and non-state entities in implementing the Action Agenda, including accomplishments in the use of state funds.

This chapter reviews the approaches used by the Partnership in tracking regional progress in implementing the 2008 Action Agenda and the results of that analysis. It also includes a discussion of the barriers to implementation and how those barriers might be overcome. Accomplishments in the use of funds are presented in Chapter 4.

The Partnership's founding statute also requires the Science Panel to provide comments on progress in implementing the plan. The Science Panel reviewed the status information provided by the Partnership performance management team, but did not reach any specific conclusions regarding the implications of incomplete or not launched Near Term Actions. They did note the importance of improving the specificity of the performance measures that are developed to track implementation of the near term actions in the 2012 Action Agenda. The letter from the Science Panel to the Leadership Council is provided at the end of this chapter.¹

Implementing the 2008 Action Agenda

The 2008 Action Agenda contained 146 Near Term Actions that represented the most concrete actions that regional partners identified as necessary to improve the health of Puget Sound at the sound-wide scale.

The Near Term Actions were organized around five strategic priorities established by the Legislature:

Priority A Protect intact ecosystem processes, structures, and functions

Priority B Restore ecosystem processes, structures, and functions

Priority C Reduce the sources of water pollution

Priority D Work effectively and efficiently together on priority actions

Priority E Build an implementation, monitoring, and accountability management system.

Actions in Priorities A-C were ranked in the Action Agenda based upon ecological benefits and other factors such as cost, readiness, and likelihood of effectiveness of each action. The ten highest ranked Near Term Actions under each of priorities A, B, and C were considered the 30 highest priority and were tracked separately in reports to the region.

However, when the 2008 Action Agenda was adopted, a system for tracking progress in implementing the proposed measures had not yet been established. Lead implementers and partners were identified for each of the Near Term Actions. The Near Term Actions themselves varied from measures that were programmatic in nature such as continuing the oil spill prevention program, to those with specific

¹ Science Panel Comments on Progress in Implementing the Action Agenda and Findings from the Puget Sound Ecosystem Monitoring Program September 28, 2012.

outputs such as develop low-impact development incentives. None of the Near Term Actions had specific performance measures that referenced calendar milestones, outputs, or outcomes.

Review of Performance Management, 2009 – 2011

The 2009 State of the Sound recognized the importance of establishing a performance management system that would allow the region to measure how well the Action Agenda was being implemented, whether the health of Puget Sound was improving, and the extent to which investments in recovery were producing anticipated results. Having this information would enable decision-makers to set priorities, allocate resources, and systematically adapt and align strategies and actions to reduce threats to Puget Sound and achieve our ecosystem protection and restoration goals.

In 2009 the Science Panel initiated discussions to identify ecosystem indicators that could be used to inform the progress towards achieving 2020 goals. They also adopted an initial set of indicators to describe the status of the ecosystem. However, additional work was required to set quantitative 2020 targets, interim targets and prioritizing threats to the ecosystem.

Implementers prepared detailed spreadsheets, which were provided to the Partnership to represent the cost estimates for implementing the Action Agenda and budget requests in 2009. Once compiled, the system needed an ongoing mechanism for updating either cost estimates or updated budget requests and funding.

During 2009 and 2010, progress was reported more generally in the form of technical presentations to the Leadership Council on such topics as oil spill protection or shoreline management. By the end of 2010, there had been one informal review of status conducted by Partnership staff based on their understanding of the work that had been undertaken by our partners.

In February 2011, in consultation with all of the implementers, the Partnership initiated a formal reporting system that was entered into an existing Quick Base system as an interim solution, pending development of a more sophisticated Performance Accountability Application. The 2011 reporting included quarterly reports on status, status narrative, and approach for making progress if problems had been identified. The data collected were entered into spreadsheets, then re-entered into the database. Staff then had to distill the information into summary graphs for public presentations. This information was compiled and presented to the Governor's Government Management Accountability and Performance office for each quarter of 2011. Financial data was handled similarly, although reporting is annual.

Status Categories

Status categories for reporting progress were identified as well as exception reporting categories to enable implementers to describe impediments to full implementation. Status categories included:

Completed: Near Term Action is completed as described.

On-Plan: Near Term Action will be completed by the end of the cycle or work anticipated for this planning cycle will be accomplished.

Needs attention: Work is not on schedule. It may or may not be recoverable, depending on level of effort, funding, and political realities.

Not launched: Near Term Action did not proceed because of major resource obstacles or may have been reconsidered and suspended or required re-evaluation before proceeding.

Near Term Actions that were categorized as Needs Attention or Not Launched we assigned one or more of the following exception subcategories:

Progress slower than anticipated
Funding/staff concerns
Reassessed/re-planned
Readdressed in the next Action Agenda
Competing state/federal priorities

Final status of 2008 Action Agenda Near Term Actions

Final status reports for the 146 Near Term Actions in the 2008 Action Agenda were provided in December 2011. Of the 146, a total of 105 (72%) were completed or on plan. The remaining 41 (28%) were not launched or needed attention (Figure 1). A detailed analysis of the status of each of Near Term Actions is provided in Appendix XX.

Of the 41 Near Term Actions for 2008 that were not launched or needed attention, 19 had been identified as top ecosystem protection and restoration priorities (priorities A, B, and C). Based on the exception subcategories assigned to each of the 19, the main factor was lack of funding or staff (Figure 2). Of these, 15 were converted to ongoing programs or revised as new Near Term Actions in the 2012 Action Agenda.

The December 2011 reports also distinguished the status of the 30 highest-priority Near Term Actions: 23 were completed or on plan, six needed attention, and one was not launched (Figure 3). Lack of funding and slower progress than anticipated were the primary obstacles to implementation cited by implementers. Six of the of the seven that needed attention or were not launched were

Final Status of all 2008 Near Term Actions

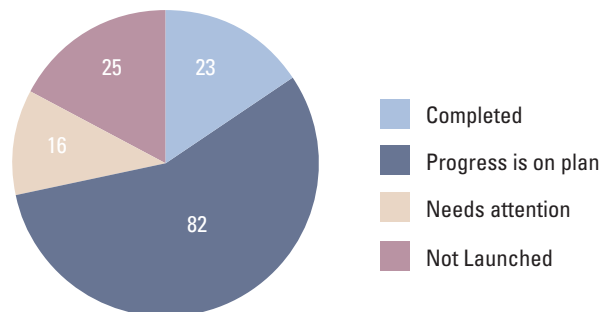


Figure 1. Status of all 146 Near Term Actions for 2008 by category.

Reasons that all 2008 Near Term Actions were “Needs Attention or “Not Launched” December 2011

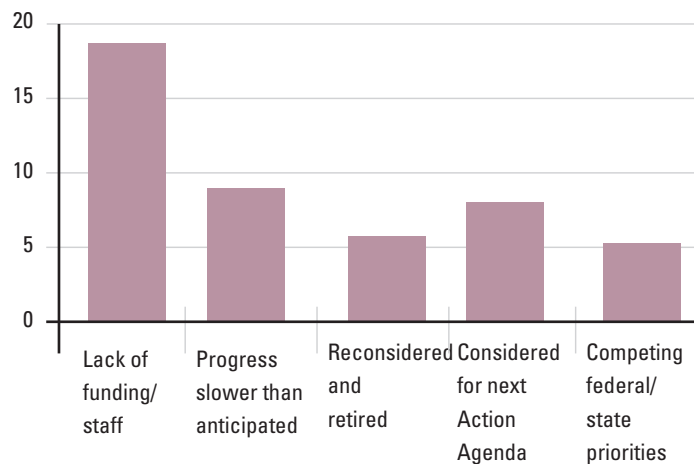


Figure 1. Exception subcategories for why 41 of the Near Term Actions for 2008 were categorized as Needs Attention or Not Launched. Note: some actions were assigned more than one subcategory.

Status of 30 Highest-Priority 2008 Near Term Actions December 2011

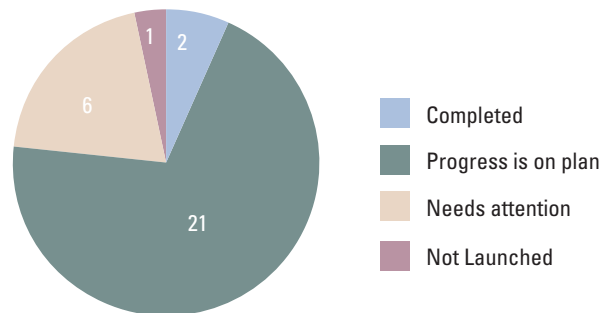


Figure 1. Status of the 30 highest-priority Near Term Actions for 2008 by category

included in the 2012 Action Agenda and remain high priorities for funding and action (see appendix XX).

Implementation of the Performance Accountability Application for the 2012 Action Agenda

Based on the experience in tracking the progress of the 2008 Action Agenda, Partnership staff and regional partners recognized the need for a more efficient, less cumbersome system for tracking implementation of the Action Agenda that would also be more accessible and transparent to the public. Accordingly, the Partnership initiated the development of a Performance Accountability Application that would initially include a tool related to Action Agenda implementation, such as performance and budgeting, but could be expanded to include other components, including effectiveness monitoring and outcomes.

Rather than relying on a retrospective analysis, the Leadership Council has asked Partnership staff to design an Action Agenda Report Card Forum that would consist of public workshops at the Leadership Council. This process will better enable the Leadership Council and the public to track our progress on the 2012 Near Term Actions and identify

problems and solutions early in the biennium, especially with respect to our highest priority measures.

Action Agenda Report Card

The Action Agenda Report Card was designed to address the issues encountered in tracking performance and expenditures for the 2008 Action Agenda. To improve the ability to define and determine progress, the Partnership worked with its partners to include specific performance measures for each Near Term Action in the 2012 Action Agenda. These performance measures address implementation milestones as well as numeric outputs and outcomes, and are captured for each Near Term Action and tracked quarterly by owners in the Report Card tool.

Completed in June 2012, the Report Card enables owners to describe obstacles they have encountered to progress (Exception Reporting) and what steps they might propose to address these obstacles (Corrective Actions). The tool produces a report that both summarizes the status of all of the Near Term Actions in a data query and provides details on each individual measure. It also provides an ongoing mechanism for calculating continued funding gaps.

Accessible through the Partnership website, The Report Card gives the region the ability to ascertain overall progress, action-by-action status, opportunities for improving performance, and strategize on how to address obstacles. Users can, at a glance, determine progress on each Near Term Action and understand the challenges and strategies for addressing those challenges. Fiscal data fields provide a more complete picture of funding sources, availability, and obstacles to obtaining the necessary resources. It contains data on the status of each Near Term Action with respect to work as well as status of funding. It also allows users to sort the 2012 Near Term Actions by owner (implementer), vital sign, key words, status of completion, and funding status.

Two excerpts from the Report Card are provided above. Figure 1 depicts all of the Near Term Actions that address restoration of eelgrass in Puget Sound. Figure 2 provides an example of a more detailed analysis of a Near Term Action that addresses integrated stormwater management.

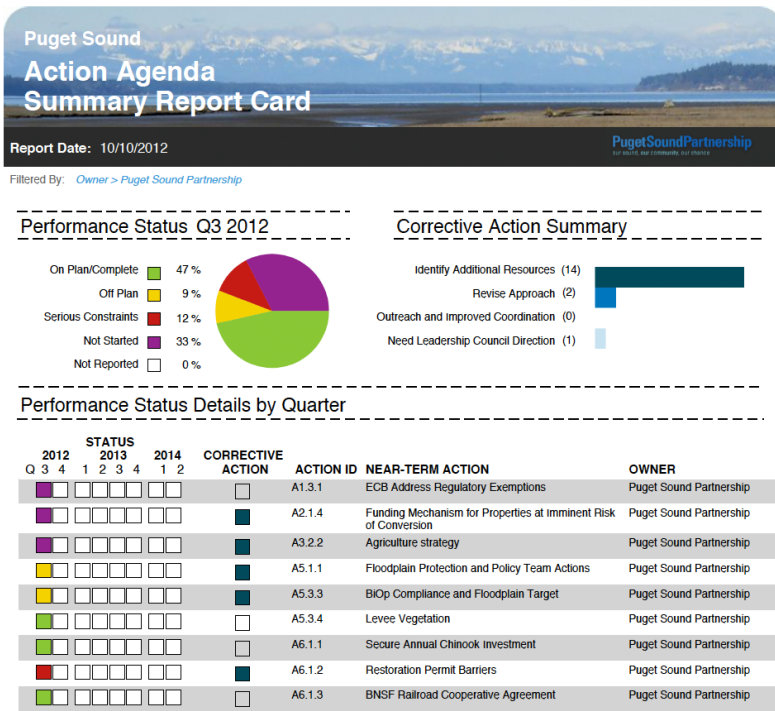


Figure 1. Action Agenda summary report card

Vital Signs

The Dashboard of Vital Signs (figure 3) described in Chapter 1 is a tool on the Partnership's website that houses up-to-date information on the status of each of the ecosystem indicators that are tracked by the Partnership. The Dashboard is updated periodically based upon the timeframe for data collection for each of the indicators. The Dashboard also contains information on ongoing programs and key projects in the region that relate to a particular indicator as well as special sections on what the individual citizen or organization can do to contribute to the recover effort. The Dashboard is linked to the Report Card and to the Project Atlas.

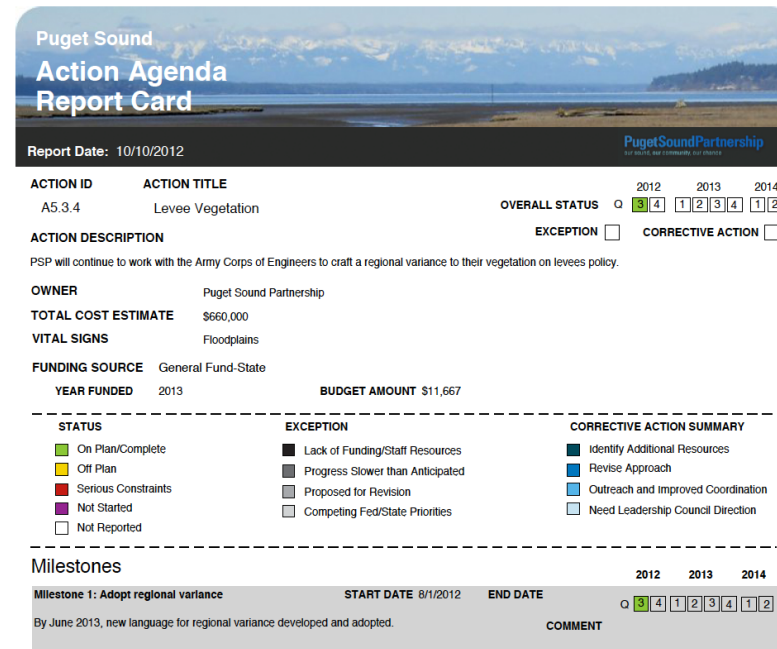


Figure 2. Action Agenda summary report card detail

Project Atlas

In collaboration with the Washington State Recreation Conservation Office (RCO), the Partnership developed a mapping tool that extracts data from the RCO PRISM database on protection and restoration projects in Puget Sound. The information currently included in the Project Atlas represents a subset of Puget Sound protection and restoration projects. All projects included were financed, in part, by state funded grants administered or tracked by RCO as of October 2005 or later. Projects in the database advance, either directly or indirectly, one or more Puget Sound Vital Signs.

The Project Atlas (figure 4) enables the viewer to determine what projects have been completed or are in process in Puget Sound. Data may be sorted by County, legislative district, watershed, funding source and status and vital sign/ecosystem indicator. The tool provides

summaries of all of the projects based on the sorting criteria. The user may also retrieve the detailed description of any of the projects that is in the database. The tool is intended to inform project sponsors who wish to learn more about projects that may be comparable to the work they are undertaking.

The Partnership is examining approaches for enhancing the Atlas to include data from other funding sources- e.g. federal projects, tribal projects as well effectiveness monitoring data. Effectiveness monitoring data could be accessed by project managers who might wish to learn from the successes and problems encountered in the implementation of restoration efforts. This would also further assist project proponents in the design and adaptive management of future projects.

We have included a snapshot from the Project Atlas that summarizes the projects funded between 2009 and the present (figure 4).

The components of the Performance Accountability Application described above are not an exhaustive listing of information available on

Puget Sound. Each of our partner agencies and organizations has their own data collection systems that are likewise accessible to the public. We continue to collaborate with our partners to reduce redundancy in our collection and reporting efforts and to improve access to information by the public.

Barriers to Implementation and Recovery

We described some of the barriers to full implementation of the 2008 Action Agenda Near Term Actions in our summary above. In this section, we focus on systemic barriers that have been identified by our partners that affect and will continue to impede our efforts moving forward. A number of these have already been discussed in the Science Panel letter to the Leadership Council below as well as elsewhere in this document.

The Action Agenda is simultaneously a visionary and a reality-based document: It looks toward the future and what we need to achieve to

meet our 2020 targets. At the same time, it documents the crucial steps we need to take and barriers we must overcome to attain its vision. By their very nature, efforts to change regulations, policies, laws, and even human habits will face roadblocks along the way. Our experience to date suggests that addressing the following barriers will be key to our ultimate success:

- Lack of funding. The most crucial and common roadblock is funding. We need to increase the financial capacity of our partners across Puget Sound, and we need a comprehensive strategy that incorporates all existing and potential funding sources. We also need creative

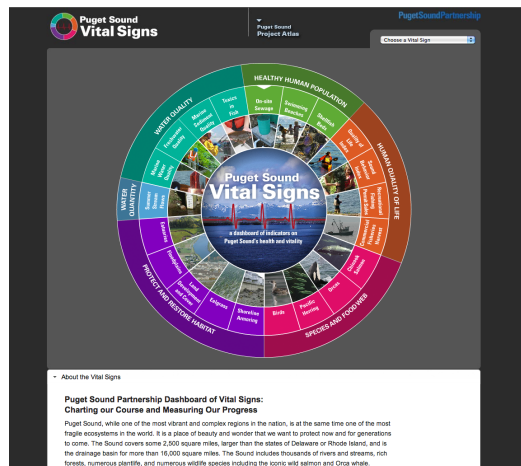


Figure 3. Vital signs

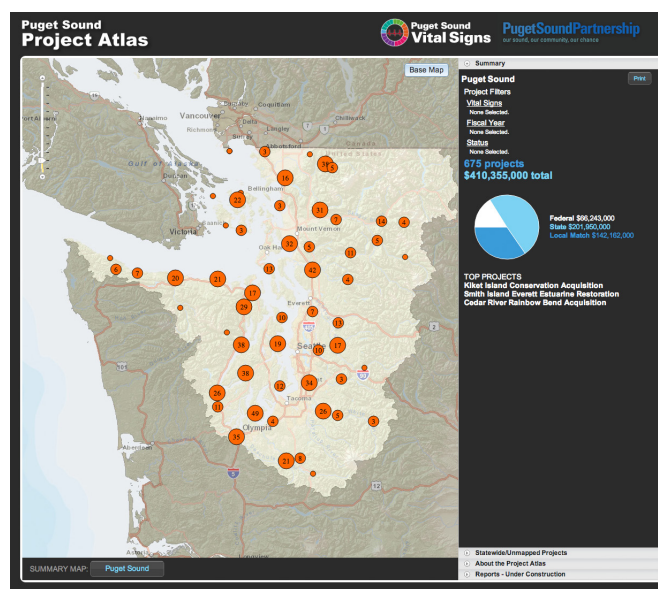


Figure 4. Project Atlas

approaches to funding and attracting investment in Puget Sound.

- Insufficient monitoring and effectiveness data. As noted by both our Science Panel and Puget Sound Ecosystem Monitoring Program Steering Committee (PSEMP), we did not have sufficient funding for complete data collection either geographically or time-wise for several of our vital sign indicators, including swimming beaches and toxics in fish. In addition, data on the effectiveness of actions are only available for a small portion of the Action Agenda's strategies. This lack of region-wide, up-to-date data impedes our ability to understand what adaptive management actions are necessary and to update and enhance Near Term Actions.
- More robust performance data. Most of the 2008 Near Term Actions and a majority of the 2012 Near Term Actions lack clear, outcome-oriented performance measures. This is in part due to the lack of monitoring effectiveness data as described above, but also to the difficulty of linking single actions with specific ecosystem outcomes.
- Attention to on-the-ground implementation. Every watershed in Puget Sound has different needs and a different context in which actions can be undertaken and completed. For the region to be successful, we must design actions to be effective at the watershed scale. Many actions in the Action Agenda are at a region-wide level; however, to make progress on many of the targets, such as estuary restoration, summer stream flows, freshwater quality, and marine sediment quality, actions must be designed in a specific and location-appropriate manner. Also, we need a better understanding of what can be achieved at the local level to contribute to regional recovery.
- Need for an overarching outreach strategy. Many of the priority actions identified require greater public awareness and support. We must have a clear, effective strategy on how to reach the relevant stakeholders and the general public to ensure that people are willing to take the necessary actions and more importantly, to support our politicians in difficult decisions.
- Understanding the role of ongoing programs. To date, we do not have a sound-wide inventory of ongoing programs, nor do we have a complete picture of how all of this work contributes to recovery. Without this

information, we are not able to evaluate the benefits of shifting funding from existing programs to new programs or initiatives. Making shifts such as this would involve making difficult, and likely controversial, decisions that would be more easily supported if the characteristics and the relative importance of programs were better understood.

- Filling our gaps in information on recovery (science). As noted by the Science Panel and detailed in the 2012 Biennial Science Workplan, we often overlook the need to fully fund the research necessary to fill gaps in information critical to regional decision-making on recovery strategies.
- Understanding the relationship between science and policy. The scientists in our region must be our partners if a successful, science-based recovery effort is to be forged and carried out. We can ask our scientists for their recommendations on the best courses of action to address a specific set of problems. But many of the hard choices are not just scientific; they also relate to the allocation of scarce resources and an assessment of public tolerance for change. Consequently, dialogue between scientific advisors and policy makers is the only way we can fulfill what state statute requires: creating an effective, focused agenda that is based on science.
- Making unpopular decisions. Change is difficult. Change can be unpopular. Many of the decisions necessary to protect and restore an ecosystem as complex as Puget Sound require actions that seem too costly to different segments of our population, even when these actions many benefit the whole. We initiated a robust recovery effort just as the country and Washington State were entering a severe national and international economic downturn. Addressing economic interests and constraints as being fundamental to ecosystem recovery requires an understanding of many complex systems. Balancing expectations for ecosystem recovery with all of the competing demands for services—health, transportation, education, social welfare—in lean economic times requires a distribution of available resources for which there are no correct answers, only choices.

Comments from the Science Panel on Implementation

September 28th, 2012

To: Martha Kongsgaard, Chair, Leadership Council

From: Joseph K. Gaydos, Chair, Science Panel
William Labiosa, Vice-Chair, Science Panel

Subject: Science Panel comments on progress in implementing the Action Agenda and findings from the Puget Sound Ecosystem Monitoring Program (PSEMP)

Background

This memorandum addresses RCW 90.71.370(3) instructing that the State of the Sound report includes “comments by the (Science) panel on progress in implementing the plan (i.e., the Action Agenda), as well as findings arising from the assessment and monitoring program.”

Progress in implementing the Action Agenda requires an examination of the details of implementation tracking by the lead entities responsible for each action, a qualitative set of performance measures against which to measure the status of implementation, robust science and monitoring programs to help inform the adaptive management process and finally, continuous dialogue between the Science Panel and policy makers. Without all of these elements, we cannot hope to make all of the linkages between implementation of the Action Agenda and the results provided by the monitoring program that help inform us on progress in protecting and recovering the Sound.

To meet this charge, this memorandum consists of the following:

1. An interpretation of the charge and defining the scope of this memorandum,
2. Progress and challenges in implementation of the 2008 Action Agenda
3. Progress and challenges in implementation of the 2009-2011 Biennial Science Work Plan
4. Progress and challenges in building the necessary science-policy dialog
5. Progress in establishing an effective adaptive management framework and system

Purpose and Scope of Science Panel Comments

The purpose of this memorandum is to provide a perspective on the key science-policy issues facing the Puget Sound Partnership (PSP) as they implemented and revised the 2008 Action Agenda. The legislation establishing the Puget Sound Partnership, including the Leadership Council, the Ecosystem Coordination Board, and the Science Panel, calls for an appropriately aggressive approach to address the degradation of the state of Puget Sound.

In this memorandum, we review actions of the Puget Sound Partnership since its inception, including the work conducted under the first (2008) Action Agenda and companion Strategic Science Plan and the 2010 Biennial Science Work Plan, as well as the 2012 revision of the Action Agenda and the 2012 Biennial Science Work Plan. The original high priority placed on developing the Action Agenda within one year of creating the Partnership precluded developing a well-reasoned and highly focused scientific assessment to identify and rank pressures and threats to the ecosystem. The short timeframe for the first Action Agenda also limited the ability to establish an adequate baseline monitoring program and lessened the ability to create a scientifically-informed prioritization of needed recovery actions. Since the 2008 Action Agenda, progress has been made on multiple fronts, as described below

Progress and challenges in implementation of the 2008 Action Agenda

The PSP Performance Management team has reported that, of the 146 recovery actions in the 2008 Action Agenda, 23 have been reported as completed, 81 are “on plan,” 17 have been started, but “need attention,” and 25 were not launched. PSP staff has provided the Science Panel with summary charts for each of these categories, with some basic analysis of the breakdowns for different recovery actions types. It should be noted that these categories are not sufficiently detailed to adequately relate recovery actions to monitoring information. It should also be noted that the categories

do not have well-defined objective measures to describe what “being on plan” or “needs attention” means, although the new report card process that requires reporting on “milestones” should be a step in the right direction. The selection of detailed milestones that are clearly linked to robust performance measures will be crucial to whether or not PSP can clearly describe the status of implementation of the 2012 Action Agenda.

While there is a great deal of interest in attempting to link the status of implementation with interpretations of monitoring information collected since the last State of the Sound report, the PSP should articulate realistic expectations about the timeframes needed for making such broad interpretations. Assessing recovery will require more detailed information about individual recovery actions, longer monitoring records, and careful interpretation grounded in models that incorporate considerations of important ecosystem processes, spatial and temporal scales, and other factors. In the shorter-term (within biennial tracking periods), we can perhaps expect to see signals in the monitoring data at smaller scales (e.g., the scale of Local Implementing Organizations; LIOs) that can be linked to local actions. The ability to detect these signals will be dependent on the LIOs tracking local recovery activities/projects, interpreting local ecological and human well-being data (including PSP indicators), and sharing information with the Puget Sound Ecosystem Monitoring Program, the Lead Organizations, and PSP staff. In the longer-term (multiples of biennial tracking periods), we can expect to see regional patterns emerge that will allow an assessment of Puget Sound recovery within the Adaptive Management Framework, with the potential for significant differences in time lags for the respective indicators of change.

The ecological impact ranking (“prioritization”) approach used to prioritize the 2012 Action Agenda sub-strategies is a notable improvement over the prioritization approach used for the 2008 Action Agenda. The ability to cross-walk the near term actions within the “Strategic Initiatives” and within the implementation status categories provide useful information to assess on how implementation is proceeding. While a lot of work remains to be done to support Action Agenda prioritization for local implementation of near-term actions and for future Action Agenda updates, this effort was a positive step towards developing robust decision support approaches that incorporate the best available science.

Progress and challenges in implementation of the 2009 Biennial Science Work Plan

The 2009-2011 Puget Sound Biennial Science Work Plan (BSWP) detailed high-priority science activities required to: (1) support the implementation of the Action Agenda, (2) build capacity to revise and improve future Action Agendas, and (3) enhance the PSP's ability to lead the ecosystem protection and restoration effort. The plan called for two parallel tracks: synthesis of available Puget Sound information, while filling critical gaps with new investigations; and building the capacity and organizational structure, and establishing procedures required for an efficient, transparent, and adaptable science program. Some priorities identified in the 2009 BSWP and progress towards implementation (or lack thereof) are as follows:

1. Synthesize available information on Puget Sound to guide recovery efforts:

Advances were made towards synthesizing available information on Puget Sound with the development of the 2010 Strategic Science Plan, which detailed what we know about Puget Sound and the science needed to restore the ecosystem. The completion of the very comprehensive 2010 Puget Sound Science Update provided a much larger synthesis of what we know about the system. This document, which is now available on-line as PDFs and as a web-published document, contains detailed chapters on understanding future and desired system states, the current condition of the Puget Sound Ecosystem, the impacts of natural events and human activities on the system and the effectiveness of strategies to protect and restore the system.

2. Fund and conduct studies to fill critical science information gaps:

Although a science account was established to help fund science that would fill critical information gaps, the account was never funded. Instead, some of the science priorities established in the 2009 BSWP were addressed in a more circuitous route. For example, priorities set in the 2009 BSWP were used by the EPA to help identify the \$13 million in science projects funded in September 2010. Additionally, it was hoped that State Agencies would use the BSWP to identify science priorities that were within their purview and address those gaps by funding projects. A method for identifying parties responsible for certain priority science projects, funding for those projects and an adaptive feedback loop for incorporating findings into Puget Sound restoration efforts was lacking with the 2009 BSWP. With the recent adoption of the 2012 BSWP the Partnership's Performance Management Team will assist with better tracking of needs identified in the BSWP.

3. Identify ecosystem services and socioeconomic indicators for recovery:

A Social Science Workgroup was established to help identify research needs to address questions associated with ecosystem services and socioeconomic indicators for recovery. There are examples of individual projects that occurred since 2009 that are relevant to this need, but much more effort is required to systematically support this need.

4. A system for peer review of materials forming the science basis for Partnership decisions:

The Science Panel established a protocol for the timely peer review of technical materials used by the Partnership to make decisions, set priorities, and update and implement the Action Agenda. A white paper was developed and is now used by the Science Panel and Partnership Staff to identify what needs to be peer-reviewed as well as the different levels of peer review. This process should be formalized and incorporated into the process for delivering results and products produced by the Partnership and co-partners.

5. Invest in capacity for modeling current and future ecosystem impacts:

The Partnership and collaborators have initiated a process to develop analytical tools that can be used to predict important ecological, economic, and social consequences of alternative future scenarios for the Puget Sound ecosystem. This work is still in the early stages.

6. Develop and implement a coordinated regional monitoring program:

The Partnership has developed a monitoring group, the Puget Sound Ecosystem Monitoring Program (PSEMP) that is working to coordinate monitoring with indicators and targets and to ensure we can detect change from restoration actions designed to improve the system. Subcommittees have been developed for different aspects of monitoring and Partnership and other staff are coordinating these sub-committees. To date the PSEMP Steering Committee has developed a charter and work plan, overseen the establishment of 9 working groups, and tasked the working groups with developing an inventory and gap analysis for monitoring requirements. Products include release of the Puget Sound Marine Waters 2011 Year in Review, preparation of the State of the Sound 2012 (SOS2012) vital signs summary and synthesis, and drafting the salmonid viable salmon population (VSP) report. The Washington Academy of Sciences was commissioned to provide an independent review of the Partnership's progress in this area and the Academy issued a report that noted deficiencies in the underlying conceptual framework and recommended refinements and improvements for the suite of indicators chosen (with implications for some of the targets). Currently, the Science Panel, Partnership Staff, and the monitoring working groups are working to address the concerns and implement recommendations identified by the Academy's review.

In summary, the 2009 BSWP and Partnership Science Panel helped to identify prioritized science and science implementation needs, but to date the Science Staff capacity at the Partnership and the capacity to fund science have been insufficient to move these identified needs forward in a timely and concerted way. It is fortunate that the EPA Region 10 has been able to fund some of the priority science needs, however the Science Panel recommends adopting a more direct route for funding and tracking science needed for ecosystem recovery. The Science Panel is working with the Leadership Council, the Partnership Staff and the Puget Sound Institute to develop a method for doing this and to better incorporate new scientific findings into decision making.

Progress and challenges in building the necessary science-policy dialogue

As discussed, the PSP uses adaptive management as a strategy to implement Puget Sound protection and restoration programs. At the core of adaptive management is a periodic cycle of actions, assessment, evaluation, and planning, including discussions about how new information (including science findings) can improve current restoration actions. Over the last several years, the Science Panel has worked to increase dialog between the Science Panel, the Ecosystem Coordination Board and the Partnership's Leadership Council. Annual meetings to discuss issues at the science-policy interface have been instrumental in helping to move forward specific projects like target setting for ecosystem indicators, developing ecological priorities for restoration actions and helping to scope an ecological pressure or risk assessment. Additionally, the Science Panel has tried to increase its presence and participation at Leadership Council and Ecosystem Coordination Board meetings.

The Partnership's goals will not be met without a strong interface between science and policy. While current efforts to better integrate science and policy are steps in the right direction, what is needed eventually is seamless constant communication between the Science Panel and policy makers so that scientists can better understand the needs of the policy makers and the policy makers can better understand the science and tools available to support decision making.

Progress in establishing an effective adaptive management framework and system

In early 2012, PSP staff began developing a draft Adaptive Management Framework document and has provided a draft to the Science Panel (a sub-group) for comment. The Science Panel has provided advice that this effort should describe a framework for adaptation and learning as it should occur and not simply describe the approaches used by the Partnership to date. While much work remains to be done in developing an adaptive management framework in practice that recognizes and deals with the difficulties in assessing progress and sharing information within the institutional complexities of the broader Partnership, the PSP has made progress in several important elements of the anticipated adaptive management framework, including: 1) the choice of ecosystem indicators (including human well-being indicators; 2) the creation of the "dashboard" of indicators from the broader set of ecosystem indicators; 3) the setting of targets for the dashboard indicators; 4) the progress to date in the development of the Puget Sound Ecosystem Monitoring Program; and 5) progress towards developing a prioritization approach for recovery actions that include statements about expected results, incorporating ecosystem threats assessment information.

Summary

The PSP has established a structure that ultimately will enable it to identify goals, identify and enact priority actions that will help achieve those goals, and be able to measure progress along the way. As would be expected at this early stage in the game, the PSP has made some significant accomplishments, has faced some challenges and has opportunities for improving its work. A summary of those identified by the Science Panel is as follows:

Accomplishments

1. Of the 146 recovery actions in the 2008 Action Agenda, 23 have been reported as completed, 81 are "on plan" and 17 have been started, but "need attention."
2. For the first time, the Science Panel and the Ecosystem Coordination Board worked together to develop an ecologically prioritized list of actions identified in the 2012 Action Agenda as needed to restore Puget Sound.
3. The Partnership has developed a monitoring group, the Puget Sound Ecosystem Monitoring Program (PSEMP) that is working to coordinate monitoring, indicators, targets and their relationship to restoration actions designed to improve the system.
4. Advances have been made to synthesize available information on Puget Sound and are being organized into an Encyclopedia of Puget Sound for easy referencing by scientists, educators and the general public. A system is being put into place to continually update our current understanding of the ecosystem.

5. A Social Science Workgroup was established to help identify research needs to address questions associated with ecosystem services and socioeconomic indicators for Puget Sound recovery.
6. A protocol was created for the timely peer review of technical materials used by the Partnership to make decisions, set priorities, and update and implement the Action Agenda.
7. Dialog has increased between the Science Panel, the Ecosystem Coordination Board and the Partnership's Leadership Council.

Challenges

1. Of the 146 recovery actions listed in the 2008 Action Agenda, 25 were not launched.
2. The categories used in Performance Management for evaluating the recovery actions detailed in the Action Agenda are not sufficiently detailed enough to relate recovery actions to monitoring information. Also, each of the categories should have well-defined objective measures that describe them progress on individual actions such that they can be compared and evaluated on a case-by-case basis.
3. While there is a great deal of interest in attempting to link the status of implementation with interpretations of monitoring information collected since the last State of the Sound report, the PSP should articulate realistic expectations about the timeframes needed for making such broad connections.
4. It is fortunate that the EPA Region 10 has been able to fund some of the priority science needs, but a more direct route for funding needed science, tracking progress and integrating results back into decision making is necessary.
5. The Science Staff capacity at the Partnership and the capacity to fund science have been insufficient to move identified scientific needs forward in a timely and concerted way.

Opportunities

1. Assessing recovery will require much more detailed information about individual recovery actions, longer monitoring records, and careful interpretation grounded in models that incorporate considerations of important ecosystem processes, spatial and temporal scales, and other factors.
2. Current collaborative efforts by the Science Panel, Ecosystem Coordination Board and Leadership Council should improve our ability to prioritize actions for local implementation the next Action Agenda update.
3. Dialog between the Leadership Council, Ecosystem Coordination Board and Science Panel needs to grow to the point that the three groups seem to be in continual conversation so that scientists can better understand the needs of the policy makers and the policy makers can better understand the science and tools available to support decision making.
4. While the PSP has made progress in choosing ecosystem indicators, creating a "dashboard" of indicators from the broader set of ecosystem indicators, setting targets and developing the Puget Sound Ecosystem Monitoring Program, the Washington Academy of Science's external review of the PSP's indicators should be used as a tool to improve the Partnership's indicators, targets and overall monitoring.